

I claim:

1. A re-configurable wavelength selective device comprising:
an input fiber, where a signal comprising multiple wavelengths $\lambda_1, \lambda_2, \dots, \lambda_n$ is brought into the device, and
5 two output fibers, one for a selected wavelength λ_i and the other for the remaining wavelengths $\lambda_1, \lambda_2, \dots, \lambda_{i-1}, \lambda_{i+1}, \dots, \lambda_n$ which pass through the device unaffected;
wherein the wavelength λ_i is selected by a control signal applied to the device.
2. A re-configurable wavelength selective device comprising:
a MEMS cross-connect switch, comprising a plurality of input port fibers, at
10 least one array of micro-mirror actuators, and an array of output fibers, said cross-connect switch configured so that an optical signal received from any one of the input fibers may be directed to any one of the output fibers via the micro-mirror array;
an optical circulator having a first port, a second port and a third port, wherein light entering the first port exits the second port, light entering the second port exits
15 the third port, and light entering the third port exits the first port.
a fiber optic coupler configured to combine all of the cross-connect switch output branches so that unselected wavelength channels exit the re-configurable wavelength drop through a single fiber port, and
a plurality of fiber Bragg gratings (FBGs) configured to provide narrow band
20 spectral filtering by retro-reflecting the Bragg wavelength.